

Trend Study 16A-16-02

Study site name: Levan Farm Chaining.

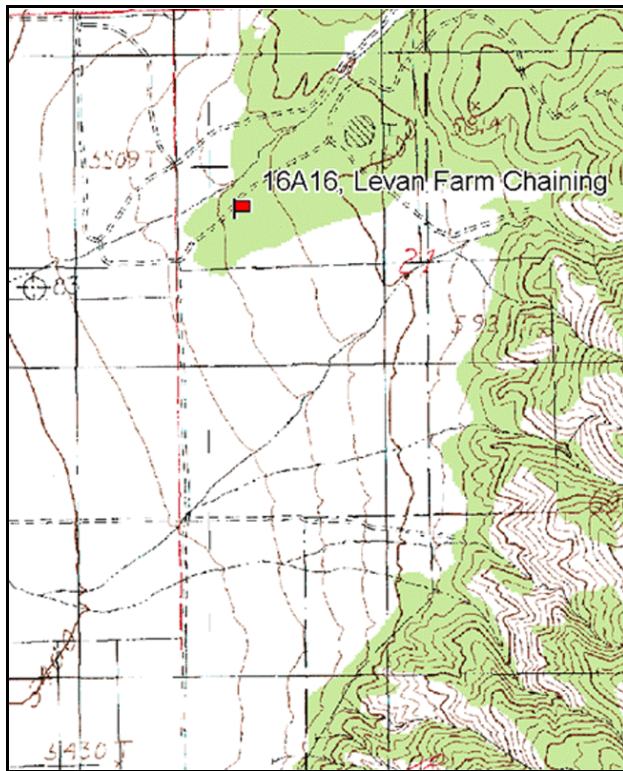
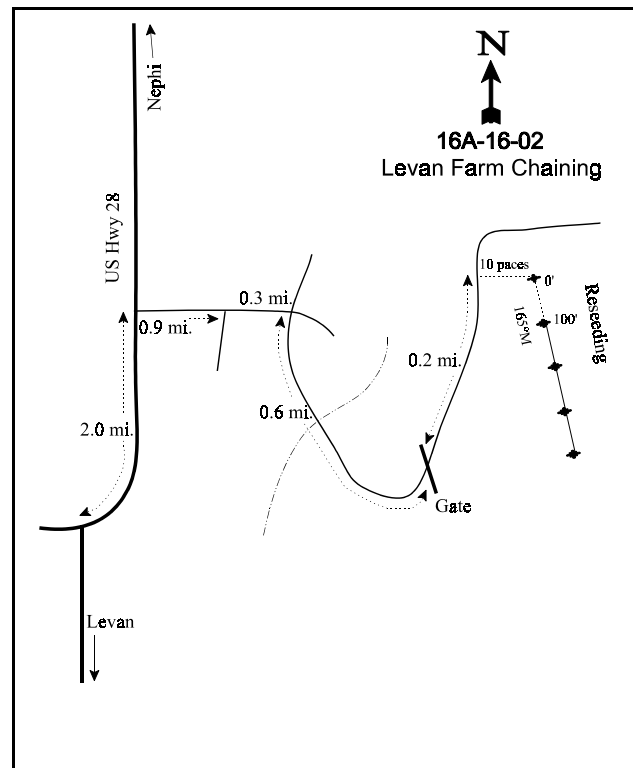
Vegetation type: Chained, Seeded P-J.

Compass bearing: frequency baseline 165 degrees magnetic.

Frequency belt placement: line 1 (11& 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

LOCATION DESCRIPTION

From the junction of Highway U.S. 78 and Highway 28 in Levan, proceed north towards Nephi for 2.0 miles to a dirt road to the east. Turn right and proceed east for 0.90 miles to a fork. Continue straight ahead for 0.30 miles to a 3-way fork. Take the right (southernmost) fork for 0.60 miles through a gate to another fork. Take the left fork for 0.20 miles to a chained-reseeded area, and stop. The baseline is located 10 paces to the east between two windrows of slash. The study is marked by green steel "T" fenceposts approximately 12 to 18 inches in height. A red browse tag, number 3965, is attached to the 0-foot stake of the baseline.

Map Name: LevanTownship 14S, Range 1E, Section 21

Diagrammatic Sketch

GPS: NAD 27, UTM 12S 4381466 N, 428517 E

DISCUSSION

Levan Farm Chaining - Trend Study No. 16A-16

The Levan Farm study is located on a chained juniper-pinyon site northeast of Levan. Utilized by deer and a few elk during severe winters, the area was purchased by the Division of Wildlife Resources shortly after the chaining was completed. This site closely resembled the previous study at Old Pinery. No serious seeding effort appears to have been made on this site. As a result, the area is nearly devoid of perennial plants. The only obvious difference from the Old Pinery chaining is that juniper slash had been windrowed. Slope on the site is nearly level with a slight west aspect and an elevation of about 5,520 feet. Wildlife use has been relatively light over the years due to the lack of forage. However, browse cover has increased and a pellet group transect read along the study site baseline in 2002 estimated 50 deer days use/acre (122 ddu/ha).

Soil conditions are similar to that of study #15, Old Pinery. Effective rooting depth is estimated at nearly 14 inches with few rocks on the surface. Soil texture is a clay loam with a neutral pH of 7.1. Phosphorus in the soil is low at 7.7 ppm. Values less than 10 ppm may limit normal plant growth and development. Erosion was reported to be occurring in 1983, but there does not appear to be any significant problems on the site due to the gentle terrain and improvements in protective cover. An erosion condition classification assessment was determined to be stable in 2002.

Valuable browse forage is limited and consists entirely of basin big sagebrush (*Artemisia tridentata tridentata*). Some basin big sagebrush was apparently transplanted after the chaining and 100 mature plants/acre were estimated in 1983. No sagebrush plants were sampled in 1989, but 660 sagebrush plants/acre were estimated in 1997. Recruitment was good with half of the population consisting of young plants. Utilization was light. Density continued to increase in 2002 to 1,540 plants/acre. Utilization remains mostly light, vigor good, and decadence low. Due in part to drought conditions, sagebrush recruitment was poor in 2002.

The only other common browse species on the site is broom snakeweed which has increased in density from 3,066 plants/acre in 1983 to an amazing 23,060 plants/acre in 1997. Seedlings and young were common in 1997 indicating a dynamic population which could further increase in density. However, due to drought conditions in this area in 2001 and 2002, snakeweed density has declined to 3,780 plants/acre. Most of the remaining plants are decadent and recruitment is nonexistent. A few juniper trees are scattered throughout this site. Point-quarter data from 2002 estimated 18 juniper trees/acre with an average diameter of 5.4 inches.

The herbaceous understory is very poor and dominated by annuals and biennial weeds. Cheatgrass dominates the site by providing 93% of the grass cover and 77% of the total herbaceous cover in 2002. Perennial grasses and forbs are lacking.

1983 APPARENT TREND ASSESSMENT

Soil condition is improving only because vegetative condition cannot be worse. The nearly level terrain has prevented serious soil erosion. Vegetative trend will also improve for essentially the same reason. Further seeding and/or transplanting is strongly recommended.

1989 TREND ASSESSMENT

The soil trend is stable. Litter is still provided mainly by cheatgrass. Significantly more pavement cover was estimated in 1989, along with less bare soil. There has been some soil loss, which will probably continue on areas with some slope. Some of the transplanted sagebrush survived and have grown to a height of 5 feet in the past ten years. They also display incredibly high amounts of seed production. However, the trend study did not get an adequate sample of the variable, sparse population and no sagebrush occurred within the density plots in 1989. However, sagebrush canopy cover averages 2% on the study site, ranging from 0 to 8%. The sagebrush observed and photographed are very vigorous. There is virtually no woody competition. The sagebrush are unutilized and surrounded by seedlings. Broom snakeweed occurs at similar densities, but seedlings are very abundant and density will likely increase. Trend for browse is considered down slightly. The herbaceous understory is very poor and dominated by annuals and biennial weeds. Besides sunflower and prickly lettuce, the list of forbs includes such undesirable species as bur buttercup, Russian thistle, and gumweed. Trend for the few perennial grasses and forbs is stable, but in very poor condition.

TREND ASSESSMENT

soil - stable (3)

browse - down slightly and lacking (2)

herbaceous understory - stable, but in very poor condition (3)

1997 TREND ASSESSMENT

Soil trend continues to be stable yet it is in poor condition. Litter cover is relatively low at only 30%. Browse trend has improved. The larger sample used in 1997 estimates 660 sagebrush plants/acre, 52% of which are young. The sagebrush appears unutilized and in good vigor. On the negative side, broom snakeweed has continued to increase dramatically from 3,765 plants/acre to 23,060 plants/acre. It currently accounts for 70% of the browse cover on the site. Some of the increase may be due to the increased sample, but it is obvious that the population is increasing due to the large numbers of young and seedling plants. Strip frequency of snakeweed is high at 93%, indicating its abundance over the whole site. Trend for the herbaceous understory is stable, yet in very poor condition. Perennial grasses are still rare and valuable perennial forbs are lacking.

TREND ASSESSMENT

soil - stable, but poor (3)

browse - up slightly for big sagebrush, but still dominated by broom snakeweed (4)

herbaceous understory - stable, but in very poor condition (3)

2002 TREND ASSESSMENT

Trend for soil continues to be stable. There is abundant ground cover made up mostly of cheatgrass. Cover of bare ground is moderately high at 22%, but due to the level terrain, erosion is not currently a problem. Trend for browse is up. Density of basin big sagebrush has increased from 660 plants/acre to 1,540 plants/acre. Use remains mostly light, vigor good, and decadence low. Another positive indicator is the dramatic decline in the previously dominant stand of broom snakeweed which was estimated at 23,060 plants/acre in 1997. Due to drought conditions for the past couple of years, density of snakeweed has declined to 3,780 plants/acre. Of the surviving plants, 61% are decadent and half of those were classified as dying (>50% crown death). This would indicate a continued decline in population for this undesirable invasive shrub. Trend for the herbaceous understory is stable but still in very poor condition. The herbaceous understory is still dominated by cheatgrass and annual weedy forbs. Perennial grasses and forbs are rare producing less than 2% total cover in 2002. Further seeding efforts will likely need to be done to improve this site.

TREND ASSESSMENT

soil - stable (3)

browse - up (5)

herbaceous understory - stable but very poor (3)

HERBACEOUS TRENDS --
Herd unit 16A, Study no: 16

| Type | Species | Nested Frequency | | | | Quadrat Frequency | | | | Average Cover % | |
|-----------------------------|-----------------------------|------------------|------|------|------|-------------------|-----|-----|-----|-----------------|-------|
| | | '83 | '89 | '97 | '02 | '83 | '89 | '97 | '02 | '97 | '02 |
| G | Agropyron intermedium | - | 4 | 2 | 4 | - | 1 | 1 | 1 | .00 | .00 |
| G | Agropyron spicatum | a- | a- | b10 | ab4 | - | - | 6 | 2 | .22 | .19 |
| G | Bromus japonicus (a) | - | - | a- | b18 | - | - | - | 8 | - | .06 |
| G | Bromus tectorum (a) | - | - | a269 | b346 | - | - | 90 | 96 | 4.20 | 14.61 |
| G | Oryzopsis hymenoides | - | - | 8 | 8 | - | - | 4 | 4 | .36 | .25 |
| G | Poa secunda | 6 | 9 | 17 | 8 | 2 | 5 | 7 | 4 | .38 | .09 |
| G | Sitanion hystrix | a- | a3 | a7 | b39 | - | 2 | 3 | 20 | .06 | .55 |
| Total for Annual Grasses | | 0 | 0 | 269 | 364 | 0 | 0 | 90 | 104 | 4.20 | 14.67 |
| Total for Perennial Grasses | | 6 | 16 | 44 | 63 | 2 | 8 | 21 | 31 | 1.04 | 1.10 |
| Total for Grasses | | 6 | 16 | 313 | 427 | 2 | 8 | 111 | 135 | 5.24 | 15.77 |
| F | Agoseris glauca | - | - | 6 | - | - | - | 2 | - | .03 | - |
| F | Alyssum alyssoides (a) | - | - | 281 | 266 | - | - | 86 | 85 | 3.72 | .94 |
| F | Astragalus eurekaensis | - | 3 | - | - | - | 3 | - | - | - | - |
| F | Asclepias speciosa | - | 1 | - | - | - | 1 | - | - | - | - |
| F | Astragalus spp. | - | - | - | 2 | - | - | - | 1 | - | .03 |
| F | Camelina microcarpa (a) | - | - | 9 | - | - | - | 4 | - | .07 | - |
| F | Calochortus nuttallii | 3 | - | 4 | - | 1 | - | 2 | - | .03 | - |
| F | Chorispora tenella (a) | - | - | 5 | 1 | - | - | 2 | 1 | .03 | .00 |
| F | Cirsium spp. | a- | b14 | a1 | ab7 | - | 7 | 1 | 3 | .03 | .06 |
| F | Convolvulus arvensis | a- | a- | b10 | a- | - | - | 5 | - | .39 | - |
| F | Comandra pallida | - | - | - | 2 | - | - | - | 1 | - | .00 |
| F | Collinsia parviflora (a) | - | - | - | 7 | - | - | - | 3 | - | .04 |
| F | Crepis acuminata | - | - | 3 | - | - | - | 1 | - | .00 | - |
| F | Epilobium brachycarpum (a) | - | - | 13 | - | - | - | 4 | - | .07 | - |
| F | Erodium cicutarium (a) | - | - | 54 | 52 | - | - | 23 | 21 | .41 | .87 |
| F | Gilia spp. (a) | - | - | 1 | 3 | - | - | 1 | 1 | .00 | .00 |
| F | Helianthus annuus (a) | a3 | d240 | c166 | b56 | 1 | 88 | 68 | 27 | .41 | .13 |
| F | Lactuca pulchella | c226 | b13 | b12 | a- | 85 | 8 | 6 | - | .03 | - |
| F | Leucelene ericoides | - | - | - | 3 | - | - | - | 1 | - | .00 |
| F | Marrubium vulgare | 1 | - | - | - | 1 | - | - | - | - | - |
| F | Microsteris gracilis (a) | - | - | - | 9 | - | - | - | 3 | - | .01 |
| F | Ranunculus testiculatus (a) | - | - | b264 | a202 | - | - | 75 | 65 | 4.43 | .95 |
| F | Sisymbrium altissimum (a) | - | - | b7 | a- | - | - | 4 | - | .04 | .00 |
| F | Sphaeralcea coccinea | - | 3 | 2 | - | - | 1 | 1 | - | .15 | - |
| F | Streptanthus cordatus | - | 4 | 3 | 1 | - | 2 | 2 | 1 | .01 | .03 |
| F | Taraxacum officinale | - | - | 4 | - | - | - | 2 | - | .15 | - |
| F | Tragopogon dubius | a- | ab5 | b14 | a- | - | 3 | 6 | - | .03 | .00 |

| Type | Species | Nested Frequency | | | | Quadrat Frequency | | | | Average Cover % | |
|------|---------------------------|------------------|-----|-----|-----|-------------------|-----|-----|-----|-----------------|------|
| | | '83 | '89 | '97 | '02 | '83 | '89 | '97 | '02 | '97 | '02 |
| | Total for Annual Forbs | 3 | 240 | 800 | 596 | 1 | 88 | 267 | 206 | 9.20 | 2.97 |
| | Total for Perennial Forbs | 230 | 43 | 59 | 15 | 87 | 25 | 28 | 7 | 0.87 | 0.14 |
| | Total for Forbs | 233 | 283 | 859 | 611 | 88 | 113 | 295 | 213 | 10.07 | 3.11 |

Values with different subscript letters are significantly different at alpha = 0.10

BROWSE TRENDS --

Herd unit 16A, Study no: 16

| Type | Species | Strip Frequency | | Average Cover % | |
|------|--|-----------------|-----|-----------------|------|
| | | '97 | '02 | '97 | '02 |
| B | Artemisia tridentata tridentata | 24 | 31 | 2.83 | 5.95 |
| B | Chrysothamnus nauseosus albicaulis | 0 | 1 | .85 | .00 |
| B | Chrysothamnus viscidiflorus stenophyllus | 0 | 1 | - | .03 |
| B | Gutierrezia sarothrae | 93 | 62 | 9.29 | 2.20 |
| B | Juniperus osteosperma | 1 | 0 | .38 | - |
| | Total for Browse | 118 | 95 | 13.35 | 8.19 |

CANOPY COVER --

Herd unit 16A, Study no: 16

| Species | Percent Cover | | Trees per Acre | | Average diameter (in) | |
|-----------------------|---------------|-----|----------------|-----|-----------------------|-----|
| | '97 | '02 | '97 | '02 | '97 | '02 |
| Juniperus osteosperma | - | .80 | 23 | 18 | 3.4 | 5.4 |

Point-Quarter Tree Data

Key Browse Annual Leader Growth

Herd unit 16A, Study no: 16

| Species | Average leader growth (in) '02 |
|---------------------------------|-----------------------------------|
| Artemisia tridentata tridentata | 2.2 |

BASIC COVER --

Herd unit 16A, Study no: 16

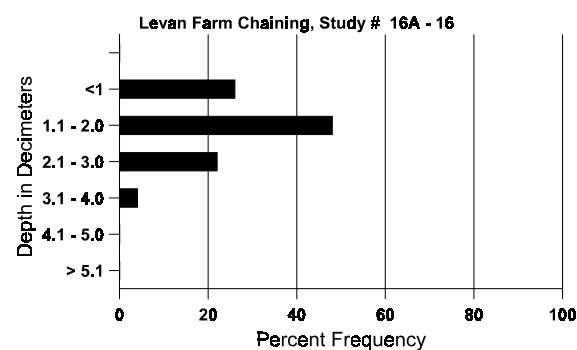
| Cover Type | Nested Frequency | | Average Cover % | | | |
|-------------|------------------|-----|-----------------|-------|-------|-------|
| | '97 | '02 | '83 | '89 | '97 | '02 |
| Vegetation | 375 | 373 | 0 | 1.75 | 31.58 | 28.32 |
| Rock | 145 | 127 | 3.00 | 3.00 | 2.70 | 2.68 |
| Pavement | 266 | 294 | 3.75 | 18.00 | 13.90 | 3.82 |
| Litter | 394 | 382 | 58.25 | 47.50 | 29.85 | 52.71 |
| Cryptogams | 160 | 176 | 0 | 0 | 2.36 | 6.25 |
| Bare Ground | 311 | 293 | 35.00 | 29.75 | 23.82 | 21.95 |

SOIL ANALYSIS DATA --

Herd Unit 16A, Study no: 16, Levan Farm Chaining

| Effective rooting depth (in) | Temp °F (depth) | pH | %sand | %silt | %clay | %OM | PPM P | PPM K | dS/m |
|------------------------------|-----------------|-----|-------|-------|-------|-----|-------|-------|------|
| 13.9 | 50.6 (16.9) | 7.1 | 41.1 | 29.1 | 29.8 | 2.6 | 7.7 | 92.8 | .5 |

Stoniness Index



PELLET GROUP FREQUENCY --

Herd unit 16A, Study no: 16

| Type | Quadrat Frequency | |
|--------|-------------------|-----|
| | '97 | '02 |
| Rabbit | 7 | 22 |
| Deer | 16 | 25 |
| Cattle | 4 | - |

| Pellet Transect | |
|------------------------|------------------------|
| Pellet Groups per Acre | Days Use per Acre (ha) |
| '02 | '02 |
| - | - |
| 644 | 50 (122) |
| - | - |

BROWSE CHARACTERISTICS --

Herd unit 16A, Study no: 16

| A Y G R E | | Form Class (No. of Plants) | | | | | | | | | Vigor Class | | | | Plants Per Acre | Average (inches) Ht. Cr. | | Total |
|--|----|----------------------------|----|---|------------------|---|---|-------------------|---|---|----------------|-----|------|------|--------------------|--------------------------------|----|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 2 | 3 | 4 | | | | |
| Artemisia tridentata tridentata | | | | | | | | | | | | | | | | | | |
| S | 83 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| | 89 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| | 97 | 3 | - | - | - | - | - | - | - | - | 3 | - | - | - | 60 | | | 3 |
| | 02 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| Y | 83 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| | 89 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| | 97 | 17 | - | - | - | - | - | - | - | - | 17 | - | - | - | 340 | | | 17 |
| | 02 | 1 | - | 1 | - | - | - | - | - | - | 2 | - | - | - | 40 | | | 2 |
| M | 83 | 3 | - | - | - | - | - | - | - | - | 3 | - | - | - | 100 | 16 | 24 | 3 |
| | 89 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | - | 0 |
| | 97 | 16 | - | - | - | - | - | - | - | - | 16 | - | - | - | 320 | 32 | 41 | 16 |
| | 02 | 48 | 17 | - | 2 | - | - | - | - | - | 66 | - | 1 | - | 1340 | 30 | 32 | 67 |
| D | 83 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| | 89 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| | 97 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| | 02 | 7 | - | - | 1 | - | - | - | - | - | 7 | - | - | 1 | 160 | | | 8 |
| X | 83 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| | 89 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| | 97 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | 0 |
| | 02 | - | - | - | - | - | - | - | - | - | - | - | - | - | 80 | | | 4 |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '83 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '89 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '97 | | 00% | | | 00% | | | 00% | | | +57% | | | | | | | |
| '02 | | 22% | | | 01% | | | 03% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '83 | 100 | Dec: | 0% | | | |
| | | | | | | | | | | | | '89 | 0 | | 0% | | | |
| | | | | | | | | | | | | '97 | 660 | | 0% | | | |
| | | | | | | | | | | | | '02 | 1540 | | 100% | | | |

| A G E | Y R | Form Class (No. of Plants) | | | | | | | | | Vigor Class | | | | Plants Per Acre | Average (inches) Ht. Cr. | | Total |
|--|--------|----------------------------|---|---|------------------|---|---|-------------------|---|---|----------------|-----|----|------|--------------------|--------------------------------|----|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 2 | 3 | 4 | | | | |
| Chrysothamnus nauseosus albicaulis | | | | | | | | | | | | | | | | | | |
| Y | 83 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 89 | 2 | - | - | - | - | - | - | - | - | - | 2 | - | - | 66 | | 2 | |
| | 97 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 02 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| M | 83 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | 0 | |
| | 89 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | 0 | |
| | 97 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | 0 | |
| | 02 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 24 | 34 | |
| D | 83 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 89 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 97 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 02 | 1 | - | - | - | - | - | - | - | - | - | - | - | 1 | 20 | | 1 | |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '83 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '89 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '97 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '02 | | 00% | | | 00% | | | 100% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '83 | 0 | Dec: | 0% | | | |
| | | | | | | | | | | | | '89 | 66 | | 0% | | | |
| | | | | | | | | | | | | '97 | 0 | | 0% | | | |
| | | | | | | | | | | | | '02 | 20 | | 100% | | | |
| Chrysothamnus viscidiflorus stenophyllus | | | | | | | | | | | | | | | | | | |
| M | 83 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | 0 | |
| | 89 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | 0 | |
| | 97 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | 0 | |
| | 02 | - | 2 | - | - | - | - | - | - | - | 2 | - | - | - | 40 | 3 | 7 | |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '83 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '89 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '97 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '02 | | 100% | | | 00% | | | 00% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '83 | 0 | Dec: | - | | | |
| | | | | | | | | | | | | '89 | 0 | | - | | | |
| | | | | | | | | | | | | '97 | 0 | | - | | | |
| | | | | | | | | | | | | '02 | 40 | | - | | | |

| A G E | Y R | Form Class (No. of Plants) | | | | | | | | | Vigor Class | | | | Plants Per Acre | Average (inches) Ht. Cr. | | Total |
|--|--------|----------------------------|---|---|------------------|---|---|-------------------|---|---|----------------|-----|-------|------|--------------------|--------------------------------|----|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 2 | 3 | 4 | | | | |
| Gutierrezia sarothrae | | | | | | | | | | | | | | | | | | |
| S | 83 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 89 | 302 | - | - | - | - | - | - | - | - | - | - | - | - | 10066 | | | |
| | 97 | 195 | - | - | - | - | - | - | - | - | - | - | - | - | 3900 | | | |
| | 02 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | |
| Y | 83 | 3 | - | - | - | - | - | - | - | - | 3 | - | - | - | 100 | | 3 | |
| | 89 | 11 | - | - | - | - | - | - | - | - | 11 | - | - | - | 366 | | | |
| | 97 | 265 | - | - | - | - | - | - | - | - | 265 | - | - | - | 5300 | | | |
| | 02 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | |
| M | 83 | 87 | - | - | - | - | - | - | - | - | 87 | - | - | - | 2900 | 9 | 9 | |
| | 89 | 86 | - | - | - | - | - | - | - | - | 86 | - | - | - | 2866 | 9 | 10 | |
| | 97 | 877 | - | - | - | - | - | - | - | - | 877 | - | - | - | 17540 | 7 | 9 | |
| | 02 | 73 | - | - | - | - | - | - | - | - | 59 | 4 | 10 | - | 1460 | 6 | 8 | |
| D | 83 | 2 | - | - | - | - | - | - | - | - | 2 | - | - | - | 66 | | 2 | |
| | 89 | 16 | - | - | - | - | - | - | - | - | 14 | - | - | 2 | 533 | | | |
| | 97 | 11 | - | - | - | - | - | - | - | - | 6 | - | - | 5 | 220 | | | |
| | 02 | 111 | 1 | - | - | - | - | 4 | - | - | 15 | - | 41 | 60 | 2320 | | | |
| X | 83 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 89 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | |
| | 97 | - | - | - | - | - | - | - | - | - | - | - | - | - | 500 | | | |
| | 02 | - | - | - | - | - | - | - | - | - | 4 | - | - | - | 7880 | | | |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '83 | | 00% | | | 00% | | | 00% | | | +19% | | | | | | | |
| '89 | | 00% | | | 00% | | | 02% | | | +84% | | | | | | | |
| '97 | | 00% | | | 00% | | | .43% | | | -84% | | | | | | | |
| '02 | | .52% | | | 00% | | | 59% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '83 | 3066 | Dec: | 2% | | | |
| | | | | | | | | | | | | '89 | 3765 | | 14% | | | |
| | | | | | | | | | | | | '97 | 23060 | | 1% | | | |
| | | | | | | | | | | | | '02 | 3780 | | 61% | | | |
| Juniperus osteosperma | | | | | | | | | | | | | | | | | | |
| Y | 83 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 89 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | |
| | 97 | 1 | - | - | - | - | - | - | - | - | 1 | - | - | - | 20 | | | |
| | 02 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | |
| X | 83 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 | |
| | 89 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | |
| | 97 | - | - | - | - | - | - | - | - | - | - | - | - | - | 40 | | | |
| | 02 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | | |
| % Plants Showing | | <u>Moderate Use</u> | | | <u>Heavy Use</u> | | | <u>Poor Vigor</u> | | | <u>%Change</u> | | | | | | | |
| '83 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '89 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '97 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| '02 | | 00% | | | 00% | | | 00% | | | | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | '83 | 0 | Dec: | - | | | |
| | | | | | | | | | | | | '89 | 0 | | - | | | |
| | | | | | | | | | | | | '97 | 20 | | - | | | |
| | | | | | | | | | | | | '02 | 0 | | - | | | |

| A G E | Y R | Form Class (No. of Plants) | | | | | | | | | Vigor Class | | | | Plants Per Acre | Average (inches) Ht. Cr. | Total |
|--|--------|----------------------------|---|---|---|------------------|---|---|---|-------------------|-------------|---|---|----------------|--------------------|--------------------------------|-------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 1 | 2 | 3 | 4 | | | |
| Quercus gambelii | | | | | | | | | | | | | | | | | |
| S | 83 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 |
| | 89 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 |
| | 97 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | | 0 |
| | 02 | - | - | - | - | - | - | 1 | - | - | 1 | - | - | - | 20 | | 1 |
| % Plants Showing | | <u>Moderate Use</u> | | | | <u>Heavy Use</u> | | | | <u>Poor Vigor</u> | | | | <u>%Change</u> | | | |
| '83 | | 00% | | | | 00% | | | | 00% | | | | | | | |
| '89 | | 00% | | | | 00% | | | | 00% | | | | | | | |
| '97 | | 00% | | | | 00% | | | | 00% | | | | | | | |
| '02 | | 00% | | | | 00% | | | | 00% | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | | | '83 | 0 | Dec: | - |
| | | | | | | | | | | | | | | '89 | 0 | | - |
| | | | | | | | | | | | | | | '97 | 0 | | - |
| | | | | | | | | | | | | | | '02 | 0 | | - |
| Rhus trilobata | | | | | | | | | | | | | | | | | |
| M | 83 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | 0 |
| | 89 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | 0 |
| | 97 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | 0 |
| | 02 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 71 148 | 0 |
| % Plants Showing | | <u>Moderate Use</u> | | | | <u>Heavy Use</u> | | | | <u>Poor Vigor</u> | | | | <u>%Change</u> | | | |
| '83 | | 00% | | | | 00% | | | | 00% | | | | | | | |
| '89 | | 00% | | | | 00% | | | | 00% | | | | | | | |
| '97 | | 00% | | | | 00% | | | | 00% | | | | | | | |
| '02 | | 00% | | | | 00% | | | | 00% | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | | | '83 | 0 | Dec: | - |
| | | | | | | | | | | | | | | '89 | 0 | | - |
| | | | | | | | | | | | | | | '97 | 0 | | - |
| | | | | | | | | | | | | | | '02 | 0 | | - |
| Ribes spp. | | | | | | | | | | | | | | | | | |
| M | 83 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | 0 |
| | 89 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | 0 |
| | 97 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | - | 0 |
| | 02 | - | - | - | - | - | - | - | - | - | - | - | - | - | 0 | 4 12 | 0 |
| % Plants Showing | | <u>Moderate Use</u> | | | | <u>Heavy Use</u> | | | | <u>Poor Vigor</u> | | | | <u>%Change</u> | | | |
| '83 | | 00% | | | | 00% | | | | 00% | | | | | | | |
| '89 | | 00% | | | | 00% | | | | 00% | | | | | | | |
| '97 | | 00% | | | | 00% | | | | 00% | | | | | | | |
| '02 | | 00% | | | | 00% | | | | 00% | | | | | | | |
| Total Plants/Acre (excluding Dead & Seedlings) | | | | | | | | | | | | | | '83 | 0 | Dec: | - |
| | | | | | | | | | | | | | | '89 | 0 | | - |
| | | | | | | | | | | | | | | '97 | 0 | | - |
| | | | | | | | | | | | | | | '02 | 0 | | - |